

Effects and Preparedness of Academic Libraries to Face the Challenges Posed By Web Resources

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Abstract: Web resources have become indispensable for growth and development of all the spheres of life. It has tremendous impact on education and research. The libraries are supposed to take care of these resources. Therefore, the study made an attempt to gauge the impact and preparedness of prominent academic libraries in the state of Jammu & Kashmir. A total of six (6) institutional libraries is selected for the study. The institute chosen were selected on the basis of stratified random sampling. The study employed survey method with a structured questionnaire as a tool to gather relevant data. The study found that most of libraries prefer subscribing web resources and assign between 25-50 budgetary allocations for subscription of web resources. Except Kashmir university library rest don't have sufficient numbers of computer terminals to provide 24X7 access to the world wide web. Besides, it was found that, except SKUAST-K library rest are yet to offer well organized digital literacy programs to the user. The libraries are making optimum use of open access resources available on the internet.

Keywords: Web Resources, Web Resources-Impact, E-consortium, Library Gateways,

I. INTRODUCTION

Information is the most important commodity and most of it is now being delivered digitally. With the emergence of information communication technology (ICT) the ways to generate, collect and access information have drastically changed over time. The ICT has given us many tools to access the information and most favorite is the Web. The World Wide Web or simply the Web, a product of the continuous research for innovative ways of sharing information resources, allows user to access information stored elsewhere. It is currently the most advanced, useful and powerful information system, constantly influencing the development of new modes of scholarly communication; with potential for delivering goods quite vast and to overcome successfully the geographical limitations associated with the traditional media. Further, the distribution time between product, publication and its delivery has been drastically reduced. The web has become a virtual library for every subject in the electronic era by providing information generated by different research centers and individuals all over the world. Numerous resources, available on the Web, can be browsed for sharing and accessing information simultaneously by any number of users. The web resources, support multimedia information and possess different searching capabilities. These are important features for researchers who always need precise, but exhaustive information.

Web resources available are of different types like e-journal, e-books, ETDs, online newspapers, wikis, blogs, manuals, databases, etc. E-journals are an important primary source of scholarly information largely fee based. A sizeable number of free, open access journals have also emerged which is evident from directory of open access journals (DOAJ)

listing 10112 journals in different fields of knowledge (DOAJ, 2016).

The digitization of books and their availability on the web has also become a popular phenomenon of providing books by a click of a mouse e.g. Google has provided a new service known as Google book search under which it is providing access to digitized books of 28 libraries. It scans all or portions of their collections and makes those texts easily available on web. The book search interface is now available in 35 languages. Over 10,000 publishers and authors from more than 100 countries are participating in the book search partner Programme. (Google Book Search, 2016)

Theses and conference proceedings which were earlier confined to the libraries are now available online. Now hundreds of repositories are hosting these materials. Repositories have been developed by universities and research institutes around the globe which unlock ETD's for use by researchers without any barriers. The famous among them are Virginia Polytechnic Institute, University of Southampton, Australian Digital Thesis Programme and Networked Digital Library of Theses and Dissertation. NDLTD (2016) under a single platform provides access to over a one million theses in different fields from all over the globe. In India Shodhganga (2016) alone provides access to 150000 full-text doctoral theses in various subjects of Science and Social Science.

The emergence of different web resources has accelerated the pace of research and development. The scholars can now access variety of resources at the click of the mouse. Web resources have resulted in great educational progress to help users to find and use online information regardless of where the users or information itself is physically located. The demand for, and use of, web resources is growing rapidly,

particularly among research scholars because these have resulted in smooth flow of information which helps them to keep a track of developments in their own fields. In this milieu, it is necessary to know the impact of web resources on libraries. The proper understanding of impact shall help stakeholders to devise future plan of action.

STATEMENT OF THE PROBLEM

The web made new forms of scholarly publications useful for scholars throughout the globe. It has an impact on the conduct of research in all academic and research institutions. Thus, it is in the fitness of things to study the impact and preparedness of libraries to face the challenges posed by web resources in terms of infrastructure availability, selection of web resources, budgetary allocations and services to meet the expectations of users. As such the current study made an attempt to gauge the impact and preparedness of select academic libraries in state of Jammu and Kashmir.

II. REVIEW OF LITERATURE

Tim Berners-Lee's invention of the Web has made a huge impact on the way that a vast number of administrative, teaching and research activities are conducted. The online communication via email and discussion lists, and access to the internet for scholarly information, can be achieved twenty-four hours a day. Web-based resources have become a definite part of educational processes at all levels and a number of studies have been conducted into use of web resources and internet services by teachers, students and scholars all over the world. The present study made a strenuous effort to delve deep and sift through available literature pertaining to the objectives of the study. The reviewed literature divulges that various studies have been conducted to know and understand the use of internet, web resources and degree of satisfaction with the resources available through hypermedia. The following studies are found relevant to present investigation which have used questionnaire tool for collection of data to reveal various inferences.

Diaz et al (2000) organised a study to determine the percentage of patients enrolled in a primary care practice who use the web for health information and to describe the types of information sought. The study observed that 53.5% respondents use the web for medical information and majority of web users are more educated and have higher incomes, thereby relating web use with education and economic background of the users. Furthermore, 60% of respondents feel that the information on the web is the "same as" or "better than" information from their doctors, which is a healthy sign and can motivate more and more users to web. Confirming above finds Taylor, Alman and Manchester (2001) conducted a study to characterize use of the web by patients and their families referred to general genetics clinics. The study finds that 47% of respondents search the web (for GRI) prior to their clinic visit. The patients and families themselves initiate the majority of such efforts; only 5% respondents are referred to a site by a physician. The study further observes that 46% respondents use the web to get

information in layperson's terms, 12% use to get information about treatment and 12% make use to get information about genetic research. The study deduces that web use among patients referred to general genetics clinics and their family members appears to be widespread. While Borzekowski, Dina and Rickert (2001) conducted somewhat similar study, they examined adolescents use and attitudes toward accessing health information through the web. The study finds that half (49%) of the respondents use the various web resources to get health information. Adolescents find information to be of high value, reliable, and relevant. Subsequently, a study at S V University Tirupathi, conducted by Chandran (2000) to gauge the academic use of web shows that majority of the respondents among teachers, students use the web and e-mail services. The purposes of using World Wide Web include communication and information gathering. The sources used to collect information on internet include websites, journals and magazines and newspapers. At the Guru Nanak Dev University, Amritsar, Amritpal Kaur (2000) conducted a survey regarding the use of internet facility by faculty and students, substantiates the findings of Chandran reporting that all respondents use internet for sending e-mail and 82% utilize various web resources like e-journals, e-books and Etd's. More than 60% of the respondents use web resources for primary information and 38% for secondary. The results of the study further show that more than 80% of the respondents feel that in comparison to traditional documents, web resources are time saving, easy to use, more informative, more useful and more preferred. In a related study Zakari (2000) studied 571 Saudi graduate students in the U.S. where results suggest that Saudi graduate students are motivated to use the web by belief that it offers many academic benefits to their graduate studies like access to online journals, databases, e-books. While as Allehaibi (2001) studied web diffusion and the pattern of use among the faculty in Saudi universities. He observes that the majority of the respondents (74.6%) are using different web resources like library OPAC's, online journals and databases and 25.4% of the faculty are reluctant to use it. In a similar study conducted on international graduate students at Florida State University (FSU) in Tallahassee suggests that the students prefer web resources such as the online catalogue, e-journals, and e-books. The top three factors regarding use are 1) availability of the source, 2) quality of the data and 3) ease of use (Abdullah, 2000). Carlson (2001) in his study observed that majority of University students is using a variety of web resources in addition to the university library to seek information for their academic needs. He deduces that the web resources may soon become the main information source for most information seekers. Confirming the large scale web use by users particularly students Chang and Perng (2001) observe that students make extensive use of the internet in the recent past, mostly Web-based databases, online journals, and search engines. They conducted investigation in Tatung University in Taipei (Taiwan). A similar type of study is conducted in the University of Sharjah (UAE), by BuMa'rafi (2001) shows that academicians use

the web mainly for e-mail, contact with colleagues, accessing library catalogues and online journals. In a comprehensive national survey of 275,811 U.S. college students at 469 universities, 83% of some 41,000 respondents confirm that they use the web resource for research and assignments (Schau, 2001). While Al-Harbi (2002) conducted a study at Florida State University (FSU) concludes that university students prefer web resources for academic needs, due to perceived advantages as immediate gratification in obtaining information, convenience, ease of use, independence, and privacy. In a separate study Harley (2003) provides an overview of a two-year study that mapped the universe of digital resources available to undergraduate educators in the Humanities and Social Sciences. The results suggest that faculty use a vast array of online materials from both educational and "non-educational" sources, but many do not use digital resources for a host of reasons including the lack of direct relevance to their preferred pedagogical approaches, and insufficient time and classroom resources. Falling in line with the above deductions Bar-Ilan, Peritz and Wolman (2003) observes that the use of web sources is already widespread among the respondents and more than 50% find the web resources indispensable. While as, de Vicente, Crawford and Clink (2004), Falk (2003) conducted separate studies and find high usage of web resources (65 - 80%). Some of the reasons attributed to the high usage are the freely available access, the ease of use, and its currency. On the other hand, web resources like online databases are not equally accessed by clients. At the Universities of Zimbabwe and Zululand Mugwisi, and Ocholla (2003) examined the use of web by academics and librarians with specific reference to the use of resources for research and teaching. The results indicate that e-mail is used mostly for work and personal use, while telnet and online journals are used predominantly for research purposes. In a similar study, Kanaujia and Satyanarayana (2003) reveal that 36.6% users consult e-journals regularly on the web, 40.4% use for consulting technical reports, 24.8% to find online databases and 10.4% for telnet service. Some reasons attributed to low accessibility of online databases includes lack of awareness to web resources, lack of time to access and too many passwords to remember. Studies on usage of other web resources such as library OPACs, e-books and subject gateway projects reveal differences in use. The study was conducted to gauge level of awareness and demand of web based learning environment among Science & Technology information seekers in Lucknow (India). In Ghana, Adika (2003) carried out a study and concludes that web is mainly used for communication (80%), research (44.9%), updating their knowledge (38.5%), and teaching (34.6%). While Momani (2003) evaluated the nature, extent, and satisfaction with the use of the web by the applied Science and Technology faculty in Jordan. He deduces that the web resources are widely used with emphasis on research and communication and is perceived as a very useful resource. At Egerton University in Kenya, Nyamboga, Ongonda and Raymond (2004) organised a study on web use by faculty, students and

library staff infer that e-mail, search engines, online journals and e-books are the most used tools and resources. Corroborating the above findings Ashcroft and Watts (2004) deduce that the e-books turn out to be one of the most popular web resources, due to easier access, speed of publication, space-saving and lower costs. At the Medical University of Isfahan (MUI), Iran Asemi (2005) carried out a survey on the search habits and use of internet by students. The results show that the researchers of MUI are getting quality information through the internet. Fifty-five per cent of respondents search for scientific information through the internet, because the university library has provided access to various databases and online journals for all students and staff. They use the internet in different ways, such as accessing to online journals, downloading software or text, chatting, discussion, E-mail services and for finding related references. It further discloses that the web is generally used for research. The analysis reveals that 54 per cent of users always find useful information on the web. Thirty-one per cent of respondents believe that quality information is available on the web. In a related study Birdar and Sampathkumar (2005) finds that 74% use web resources to full extent for research and teaching and 38.6% are using it only to browse e-journals. They carried out a survey in six universities of Karnataka (India) encompassing all the research scholars and faculty members in the department of physics. Bar-Ilan and Fink (2005) also concludes that more than 80% of the respondents frequently use and prefer an electronic format, irrespective of their rank or age. He further comments that most previous studies had concluded an inverse relationship between e-journal usage and age, but now users of all ages switch to the online journals not only in terms of usage but of preference as well. In a separate study Edwin and Markwei (2005) gauged the extent of awareness and use of the web and its resources by academic staff and postgraduate students of the University of Ghana. The study concludes that both staff and students are fully aware of the web and most of its services. Academic staff in general uses the web resources more than students. The study established that e-mail is highly used by both staff and students followed by e-journals and databases. Both staff and students find the web a very useful resource. On a similar pattern Al-Ansari (2006) investigated the use of web resources among the faculty members of four colleges of Kuwait University. It observes that a large majority (82%) are using the internet to e-mail, search, and web resources mainly for communication, research, and publication. In India's biggest open university, Indra Gandhi National Open University Kanungo (2007) carried out a survey on the use of internet and web resources among IGNOU staff. The study finds that 95% use internet for email and 82.62% use it to collect research based information sources. The study also observes that 58% use web resources for fact finding and 52.17% use it for publication of an article as well. Likewise, Mohammad Nazim (2008) conducted a survey in Aligarh Muslim University (AMU) to determine the extent to which internet users are aware and make use of the web resources and

services. The study concludes that 70.86% users make use of online journals, 35.31% databases and 29.88% reference documents. The online journals and databases are the preferred information sources among the internet users.

III. SCOPE

The scope of the study is limited to impact and preparedness of libraries to facilities access and hosting of web resources available in select academic institute in J&K. A total of six (6) institutions are selected for the study. The institutes chosen were selected on the basis of stratified random sampling. The mechanism of selection is discussed in methodology section.

IV. OBJECTIVES

The aim of the study is to gauge the impact and preparedness of libraries to face the challenges posed by web resources in terms of

- infrastructure availability,
- selection of web resources,
- budgetary allocations and
- services to meet the expectations of users.

V. METHODOLOGY

In order to achieve the set objectives, the methodology employed for the present work consists of following stages and phases.

Phase – I

In order to pursue research on scientific and logical basis a thorough review of relevant literature was made. The literature was retrieved both from print sources of information as well as online primary literature. The literature helped to understand the problem in detail, besides finding gaps in the study to help to evolve a better methodology to proceed further on scientific lines.

Phase – II

The literature retrieved in turn helped in designing two comprehensive questionnaire for the study. A structured questionnaire was framed in order to know the impact and preparedness of libraries to face the challenges posed in terms of infrastructure availability, selection of web resources, budgetary allocation and proactive services to meet the expectations of users

Phase – III

The questionnaire designed was tested for possible shortcomings. This was done by distributing it among few libraries to check the accuracy and effectiveness of the questionnaire. Accordingly necessary modifications were made to the questionnaires to make them more accurate and effective.

Phase – IV

In view of the fact that the educational and research institutions of J&K are geographically spread on a large area it is not possible to undertake study of all the institutes for time and financial constraints. Therefore, select institutes (at least 33%) from each stratum were taken into study depending upon the size of the stratum. To achieve this,

stratified random sampling was employed for selection of institutes.

The research and academic institutes were first divided into different strata depending upon the type and parent body of the institution. Subsequently, the random values obtained (using "RAND" (Shift+RAND) function of scientific calculator) by dividing the total number of institutions in each stratum & the remainder of each division was taken as sample i.e. institutes selected according to their serial number assigned after arranging them in alphabetical order.

The higher educational and research institutes in Jammu & Kashmir belongs to strata under CSIR, ICSSR, Universities, National and State Level Professional Educational and research Institutes. The following tables enumerate in detail the number of institution under each stratum and sample size of institutes selected along with the values obtained through stratified random sampling with subsequent result of select institutes.

A) CSIR Institutes in Jammu & Kashmir

Total Number of CSIR Institutes In J&K	Sample Size	%age Yield	Round Figure
2	50%	1	1

Random Values Obtained	Institutes Selected (by Reminder Technique)
491	1

B) Universities in Jammu & Kashmir

Total Number of Universities In J&K	Sample Size	%age Yield	Round Figure
7	50%	3.5	3

Random Values Obtained	Institutes Selected (by Reminder Technique)
239	1
884	2
475	6

Besides, there are two premier national and state level professional educational and health institutes in Jammu & Kashmir both of which have been selected for the study i.e. NIT and SKIMS.

Strata of Higher Education & Research Institutes in Jammu & Kashmir

Each stratum has been arranged in alphabetical order showing selected Institutes through Stratified Random Sampling

A) CSIR

1. Indian Institute of Integrative Medicine (IIIM), Jammu **Selected**

2. Regional Research Laboratory, Srinagar .
There is no ICSSR and ICMR run institution in Jammu & Kashmir

B) Universities

1. Jammu University
Selected
2. Kashmir University
Selected
3. Private - Baba Ghulam Shah Badshah University, Jammu
4. Private - Islamic University of Science & Technology, Kashmir
5. Private - Mata Vaishno Devi University, Jammu
6. Sher-i-kashmir University of Agricultural Science & Technology - Srinagar, Kashmir
Selected
7. Sher-i-kashmir University of Agricultural Science & Technology - Jammu

C) National Institute

1. NIT, Srinagar
Selected

D) Premier State Health Institute

2. SKIMS **Selected**

The data collected is analysed and supported with tables and charts wherever necessary . Wherever required, the data is correlated with the findings of available literature to throw light on meaningful findings and inferences .

VI. RESULTS AND DISCUSSION

Selection

Choice for Preference and selection

The unique features of web resources make them more preferred resources over the rest of the formats . To understand different features library manager, consider stupendous for choosing the web resources data collected revealed that "Ease of use" and "access to many Users" are dominant characteristics of web resources for selection and preference over other formats considered by all institutional libraries . Likewise, "instant availability" (no delays) of web resources on their publication is another common feature which is unanimously agreed by all the libraries as a basis for

their preference . "24X7 availability" is one more influencing characteristic of web resources which turned the wave in their favour and almost all the libraries (except SKUAST-K, NIT-Srinagar SKIMS and IIM - Jammu) consider it a major parameter for subscribing them .

Few years ago due to growing nature of the libraries storage of information sources in libraries was a vital problem which overcame by web resources . Thus, overcoming "storage hassles" is a driving feature for selection of web resources by the libraries . Out of 6 libraries 2 (except libraries of Kashmir University, Jammu University, SKUAST-K, SKIMS) consider it a big relief and as such addresses the problems associated with the growing nature of the collection .

Multimedia characteristic of web resources gives an edge over its traditional counterpart and is appreciated by one library as distinctive feature to prefer web resource . The traditional information sources need higher degree of preservation and regular maintenance, which is lowest in case of web resources . But only 3 libraries consider it a reason to prefer web resources, while as Jammu University, SKUAST-K, NIT, Srinagar, do not feel so .

There are various online handy selection tools (Instant & timely access to selection tools) that may help in selection of information sources for institutions with efficiency of time and effort . However, it is found that four institutional libraries among fifteen appreciate these online selection tools and make use of them .

Thus, web resources vis-à-vis preference library managers appreciate their many features compared to traditional sources . This view is also substantiated by the findings of Kanamadi and Kumbar (2007) that about strong perception of librarians regarding web resources who prefer them for their unique features . But the awareness and urgency to appreciate all the features to optimum level is still lacking and hence further effort and endeavours on part of library management is required . With the emergence and application of web technology in teaching and research and its widening influence stresses the need for better understanding of them, bearing in mind that future belongs to web technology and access has already taken over the acquisition philosophy . Table 1 offers clear picture and comprehensive information .

FEATURES	Kashmir University	Jammu University	SKUAST -K	NIT, Srinagar	SKIMS	IIM - Jammu
Ease of use	✓	✓	✓	✓	✓	✓
Access to many Users	✓	✓	✓	✓	✓	✓
24X7 Availability	✓	✓	X	X	X	X
Remote access	X	X	X	X	X	X

No storage hassles	X	X	X	✓	X	✓
Ability to include text, sound, video and animation	X	X	X	X	X	✓
Less maintenance and preservation issues	✓	X	X	X	✓	✓
No delays	✓	✓	✓	✓	✓	✓
Instant & timely access to selection tools	X	X	X	X	X	X

Subscription Channels

Traditionally information sources particularly journals and books are acquired through vendors to avoid hectic transaction with umpteen publishers. This was financially taxing. Libraries have to pay additional amount in terms of commission to vendors and quite often result into malfunctioning on part of vendors. But with the advent of web resources, the role of these vendors or more precisely agents could be restricted to a great extent. Now, it is found that libraries and information centres more often than not directly approach publishers through online transactions. This has given two benefits to libraries, financial savings and bargaining power to reduce rates further.

It is found that majority of libraries (4) subscribe web resources directly from the commercial Publishers, (SKIMS

and IIM - Jammu). Academic and scholarly societies published web resources are preferred choice of libraries. All libraries except SKIMS prefer to subscribe web resources published by societies. The subscription from aggregators which are modern agents or interface between the publisher and the library and are not yet much popular. The change in channels of subscription of information resources with web technology is having positive impact on acquisition of libraries. The middleman or vendors are minimised and saving money and gaining bargaining power by libraries when subscribing more web resources from a particular publisher. Table 2 provides comprehensible details of the same.

Table 2: Web Resources Subscription Channels Opted by Libraries

of Channels Subscription	Kashmir University	Jammu University	SKUAST-K	NIT, Srinagar	SKIMS	IIM - Jammu
Commercial Publishers (Directly)	✓	✓	✓	✓	X	X
Aggregators	X	X	X	X	X	X
Academic and Scholarly Societies	✓	✓	✓	✓	X	✓

E-consortia Tie-ups

Library e-consortia are becoming an essential element in the strategic development of a library to help it in a big way to overcome financial constraints and take services to the next level.

The study found that majority of institutional libraries form a part of different library e-consortia. The 2 libraries (associated with Kashmir University, Jammu University,) are part of UGC-INFONET e-Journal consortium. Besides, NIT-Srinagar is part of INDEST e-consortium. The SKUAST-K is part of CeRA (Consortium for e-Resources in Agriculture), while CSIR is running a separate e-consortium for its different research centres spread out in India

known as CSIR E-Journal Consortium and IIM – Jammu, being part of CSIR network in exploiting its resources. SKIMS, is not component of any library e-consortia and are either subscribing journals individually. A study conducted in 2001, report 93% of academic libraries in North America and 34% in U.K purchase e-resources via e-consortia (Ashcroft & McIvor, 2001)

The majority of libraries are subscribing e-resources via e-consortia is a healthy sign. But, worrying factor is that some special libraries like SKIMS, is not part of any e-consortium so far. Thus, indirectly depriving users wider access to e-resources. Table 3 gives complete picture of particulars.

Table 3: Various E-consortia Tie-ups

Name of E-consortium	University of Kashmir	University of Jammu	SKUAST-K	NIT, Srinagar	SKIMS	IIM Jammu
INDEST	---	---	---	✓	---	---
UGC-Infonet E-Journal Consortium	✓	✓	---	---	---	---
CeRA	---	---	✓	---	---	---
CSIR E-Journal Consortium	---	---	---	---	---	✓

Online Journals - Subscription

The subscription of online journal is continuously increasing continuously. It is revealed Kashmir University, Jammu University and NIT-Srinagar subscribes to 2001-2500 e-Journals each. Moreover, IIM-Jammu, subscribe between 1501-2000 journals. In addition SKUAST-K subscribes only 10-15 e-journals which is lowest in the study. The study by Ashcroft and Langdon (1998) reveal 19% of UK academic libraries subscribe between 3000 and 5000 e-journals and 46% of North American academic libraries subscribe over 5000 e-journals. The findings of present though somewhat similar in major higher education

institutions, but the time gap between the two studies reveal the western universities by now must be subscribing much higher number of e-journals and as such libraries under study need to improve further.

Other than JNU the subscription is very low and has a plenty of scope to improve the subscription for quality and efficient research output. The journals are primary vehicles of knowledge and their sufficient availability can alone take research and development to a higher level. Therefore, adequate funds need to be allocated for the subscription of quality online journals. The present situation is by no means satisfactory. Table 4 gives a thorough account

Table 4: Online Journals Subscription in Libraries

No. of Journals	Kashmir University	Jammu University	SKUAST-K	NIT, Srinagar	SKIMS	IIM Jammu
1501 - 2000 Journals	---	---	---	---	---	✓
2001-2500 Journals	✓	✓	---	✓	---	---

Any other	---	---	10-15	---	---	---
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Impact of Free and Open Access Resources

Libraries around the globe have struggled to subscribe all the information published and have more than often found themselves handicapped due to limited funds to procure more. Even the biggest libraries with enormous funds at their disposal cannot procure all quality information products. In this situation open access resources have given libraries hope to tackle financial constraints. The study found that "Open access journals" are unanimously regarded by all institutions as good source to overcome financial constraints.

Likewise "Open Access Repositories" are also considered by all institutional libraries as an effective source to overcome financial limitations. While as, "Free Reference Sources" too are regarded to trounce financial constraints by majority of libraries. While as, few libraries (NIT, Srinagar, SKIMS) do not consider them as a source to overcome financial limitations. This may be due to the reason that all these

institutions are special in nature and availability of quality reference sources in these subjects may be missing. "Free e-books" are also making their mark and libraries appreciate their presence and find one of the effective sources to minimise financial constraints. The study reveals that out of 6 institutional libraries 4 libraries regard them a good source to minimise financial constraints with exception of SKIMS, IIM - Jammu. Again, all these institutions are special in nature and presence of non-availability of free e-books in their areas of specialisation is understood.

Generally speaking the "free and open access resources" are releasing pressure on libraries and information centres to acquire and subscribe more and more toll-based resources which is not possible given high subscription rate and squeezing financial allocations. Table 5 offers a complete account of facts and figures.

Table 5: Impact of Free and Open Access Web Resources on Collection Development

Type of Resource	University of Kashmir	University of Jammu	SKUAST-K	NIT, Srinagar	SKIMS	IIM Jammu
Open Access Journals	✓	✓	✓	✓	✓	✓
Open access Repositories	✓	✓	✓	✓	✓	✓
Free Reference Sources	✓	✓	✓	X	X	✓
Free e-books	✓	✓	✓	✓	X	X

INFRASTRUCTURE Work Stations

The libraries today cannot confine their acquisition to tables and chairs alone they are in need of all modern gadgetry like computers, scanners, printers, copiers, etc. this is indeed need of the hour for accessing information on the web. The study found that central library of Kashmir University possess the maximum number of computers (more than 250) followed by Jammu University. The lowest number of computers is found in IIM - Jammu (1-10).

The Kashmir University appear to have taken a lead in computerisation and is way ahead of other institutions. But

the best thing would be to use the infrastructure optimum to the expectation of the users. Furthermore, the computer ratio seems to be quite rational with majority of the institutions given their limited user base. However, it should have been on higher side in NIT-Srinagar have to cater huge user base. The positive sign of the prevailing situation is that all the institutional libraries are taking acquisition of computers seriously and can turn boon for these institutions in the future, if they keep pace with the technology requirements of their users in relation to research and development. Table 9 provides a complete description.

Table 6: Availability of Work Stations in Libraries

No of Work Stations	Universtit of Kashmir	Universtit of Jammu	SKUAST -K	NIT, Srinagar	SKIMS	IIIM - Jammu
1-10	---	---	---	---	---	✓
11-20	---	---	---	✓	✓	---
21-30	---	---	---	---	---	---
31-40	---	---	✓	---	---	---
Any Other	More than 250	More than 100	---	---	---	---

BUDGETARY

ALLOCATIONS

The collection development policy has changed with the advent of web resources and more emphasis is given to access over possession. Hence, more focus on budgetary allocation to subscription of online resources. It is found that during 2005 SKUAST-K, NIT-Srinagar, allocated around 5%-25% of their collection development budget to subscribe web resources, whereas IIIM - Jammu, spent around 25%-50% of their budget. However, libraries of Kashmir University, Jammu University, SKIMS, could not provide the information.

In 2006, IIIM - Jammu, spent 25%-50% to subscribe web resources. While as libraries of Kashmir University, Jammu University, SKUAST-K, NIT-Srinagar, spent between 5%-25%. Again SKIMS, were not able to furnish the information.

While during 2007, IIIM - Jammu libraries have exceeded to spend above 50% of their budget for collection development on web resources alone, which is the highest for year 2007. The second highest (i.e. 25%-50%) is spent by NIT-Srinagar. Besides, libraries of Kashmir University, Jammu University and SKUAST-K spent only 5%-25% of allocated amount to subscribe web resources.

In 2008, again IIIM - Jammu, library spent more than 50% of their allocated amount for collection development to

subscribe web resources.

Accordingly libraries of NIT-Srinagar, spent around 25%-50% and libraries of Kashmir University, Jammu University and SKUAST-K only 5%-25%.

The study conducted by Dulaymi et al (2004) on Saudi Arabia Academic Libraries (SALs) found exponential growth of budgetary allocation for subscription of e-journals. The SALs budget of print journals in the year 1995 was 8,295,151 Saudi Riyals and that of e-journals was 470,000. In the year 1996 the budget of print journals was increased by an average of only 6.29%, while e-journals increased by 125.53%. The study further reveals that acquisitions of print journal titles have rapidly decreased since 1997. In the year 1996, print journals show an average increase of 2.79% only, while e-journals increased highly by 97.9% in the same year, which corresponds to the extreme increase in the budget of e-journals in 1996 by 125%. The SALs show a sharp decrease of 6% in print journals in 1999 which again corresponds with the simultaneous increase in e-journals titles by 10.35%.

So the impact of web resources is enormous on collection development policies of libraries. The domination of web resources in a short period of their arrival is phenomenal. It has already encroached between 1/4th to more than half of the allocated budget for collection development. There is likelihood that this trend is going to accelerate further. Table 7 presents a comprehensive picture

Table 7: Budgetary Allocations Spent for Subscription of Web Resources

Year		Kashmir University	Jammu University	SKUAST -K	NIT, Srinagar	SKIMS	IIIM - Jammu
2005	5%-25%	---	---	✓	✓	---	---
	25% - 50%	---	---	---	---	---	✓
	50% and Above	---	---	---	---	---	---
2006	5%-25%	✓	✓	✓	✓	---	---
	25% - 50%	---	---	---	---	---	✓

	50% and Above	-	---	---	---	---	---
2007	5%-25%	✓	✓	✓	---	---	---
	25% - 50%	-	---	---	✓	---	---
	50% and Above	-	---	---	---	---	✓
2008	5%-25%	✓	✓	✓	---	---	---
	25% - 50%	-	---	---	✓	---	---
	50% and Above	-	---	---	---	---	✓

SERVICES

Awareness Programmes

In order to exploit the web resources to optimum, libraries need to run various awareness programmes for users. It is found that only a few libraries are conducting different user awareness programmes. The regular awareness programmes are conducted by all the libraries, while as only two (Kashmir University, SKUAST-K) libraries are found to circulate literature related to awareness and use of web resources. Likewise, use of technology to provide awareness to user is confined to of SKUAST-K library. These libraries use email as a tool to reach out users and acquaint them with necessary instruction regard web resources. The SKUAST-K is the only

library in the study which besides above methods has incorporated library and web resources use as a compulsory paper in the syllabi.

Ashcroft and McIvor (2001) reveal libraries in UK and North America employ Information Gateways, journals alerts, seminars and workshops to orient users with web resources. The multi-pronged approach is the best strategy to aware users. It could be very beneficial and can provide results in a minimum time. The use of one of the methods is not going to suffice the users with different learning behaviours. So libraries should bear this fact in mind that awareness leads to enlightenment. Table 8 offers a clear picture.

Table 8: Web Resources Awareness Programmes Conducted by Libraries

Type of Program	Kashmir University	Jammu University	SKUAST - K	NIT, Srinagar	SKIMS	IIM Jammu
Regular awareness programmes	✓	✓	✓	✓	✓	✓
Circulate related literature	✓	X	✓	X	X	X
Update users through email	X	X	✓	X	X	X
Any Other	X	X	Incorporated one compulsory paper in the syllabi	X	X	X

Library Information Gateway

Library gateway to free and subscribed web resources is an important tool for users to exploit the information resources not known to them. It is found that library of IIM – Jammu, maintain gateway to “Open Access Resources”, while as rest of the libraries are not offering such facility. Gateway to “Consortium based Resources” is maintained by nine

institutions. The limited effort on part of libraries to provide gateway facilities particularly to free and open access resources is a grave concern. Sufficient attempts should be made to maintain an exhaust gateway for such available resources. This endeavour can go a long way to fulfil the information needs of the user and minimise the stress and information demand on the library system which in turn will

help in satisfying the objectives of the organisation . Table 9 presents a comprehensive picture .

Subscription Type	Kashmir University	Jammu University	SKUAST-K	NIT, Srinagar	SKIMS	IIIM Jammu
Open Access Resources	X	X	X	X	X	✓
Consortium Based Resources	✓	✓	X	✓	X	✓
Institutional Hired Resources	X	✓	X	X	X	✓

Open Access Services in Libraries

The library all over the globe are feeling the brunt of limited and squeezing funds . In order to overcome the crisis libraries have resorted to create institutional repository and library gateways to free resources . It is found that institutional libraries of Kashmir University, SKUAST-K, IIIM – Jammu, have created their own “Institutional Repositories” to cater information requirements of users . Similarly, library

gateway to “Free resources” is maintained only by IIIM – Jammu, to overcome financial limitations .

The creation of institutional repositories can overcome the budgetary constraints if every institution library comes up with the repository . It should be thus among the priorities of each and every institution . Similarly, the creation of library gateway to free resources is imperative to provide wide range of resources to users and help in exploit the free resources to a maximum . Table 10 presents a comprehensive picture

Open Access Services	Kashmir University	Jammu University	SKUAST-K	NIT, Srinagar	SKIMS	IIIM - Jammu
Created Institutional Repository	✓	X	✓	X	X	✓
Maintains Library Gateways to Free Resources	X	X	X	X	X	✓

VII. CONCLUSION

The web resources have positive impact on collection development policy of the libraries . It is evident that most of libraries prefer subscribing web resources through direct publishers and scholarly societies thus avoiding vendor or intermediaries to a large extent . This shall save financial resources and enhance the acquisition programme .

Most of the libraries believe e-consortia are able to overcome budgetary problems to a great extent and are part of one or more national e-consortia . This is imperative for libraries to cooperate with each other in subscription of information

resources and to overcome squeezing finances and high expectations from the patrons .

Three institutional libraries were found to subscribe more than 2000 e-journals, while other institutions subscribe less number . It is a concern which needs to be addressed in light of the fact that tens of thousands of quality journals are available online . The access to limited journals is depriving scholars adequate access to primary sources and as such hampering quality research . The national level e-consortia should enhance their acquisition policy to enrich the consortium with more quality resources for users of all the institutions in the country . A good amount of budget is being

allocated for acquisition of web resources which need to be encouraged to help scholars to get timely information .

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